

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003292**Date Inspected:** 06-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG and Tower**Summary of Items Observed:**

The Quality Assurance (QA) Inspector Gregory Bertlesman arrived on site at the Zhenhua Port Machinery Company facility on Changxing island, China to periodically monitor welding and Quality Control functions. While on site the Quality Assurance Inspector observed and/or discovered the following.

OBG Sub-Assembly Bay 1**Deck Panel Production Welding**

The Quality Assurance Inspector witnessed the welding of the production panels DP-439-002 (5 rib) and DP-115-001 (4 rib). The welding of the deck panels was performed on gantry 1 to produce the partial joint penetration groove weld. Upon completion of the gas metal arc welding (GMAW) root pass ZPMC performed the subsequent submerged arc welding (SAW) pass. The parameters appeared to be within welding procedure specification for dual process WPS-B-T-2342-U1 (U-rib)-3.

ABF Representative Kit Man Li informed QA that ZPMC performed magnetic particle testing to the tack welds on Deck Panel DP-439-002 and marked 158 out of 250 tack welds for repair and on DP-115-001 5 out of 216 for repair. Below is a digital photograph of a tack weld on DP-439-002 illustrating a typical magnetic particle indication.

The Quality Assurance Inspector observed ZPMC performing fit-up and tack weld operations to Deck Panel DP-115-002.

Bay 2 The Quality Assurance Inspector observed ZPMC utilizing a 5 ton jacking device to aid in the

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

installation of high strength bolts at skin "D" Longitudinal Stiffener Mp1011 between weld numbers 8 and 10. The Quality Assurance Inspector generated a Incident Report pertaining to the discrepancy. Below is a digital photograph illustrating the discrepancy.

OBG Sub Assembly Bay 3

The Quality Assurance Inspector observed ZPMC performing in process welding of Side Panel DP-011A, T stiffener to side plate connection. Quality Control Inspector Wu Zhi Feng was monitoring the welder. The welders were using the flux cored arc welding process to produce the fillet welds in the horizontal position. The part was stationary on gantry 1 while the welding machine was on tracks to facilitate welding along the length of the part. The Quality Assurance Inspector recorded the welding parameters at the welder's station and found the parameters to meet the minimum requirements of welding procedure specification WPS-B-T-2233-B-U2-F. The Quality Assurance Inspector witnessed Quality Control measuring the interpass temperature using a calibrated infra-red temperature measuring device.

The Quality Assurance Inspector observed ZPMC performing fit-up and tack welding operations to Side Plates SP-393-001 and SP-391-001 T stiffener to side plate connection. ZPMC was utilizing the SMAW process to produce the fillet tack welds in the horizontal position.

Bay 4

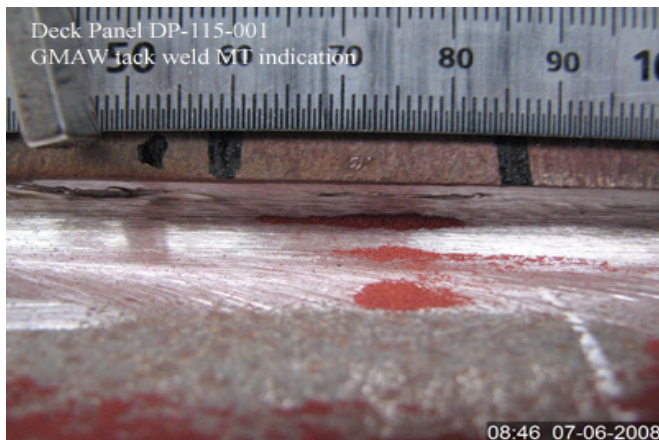
The Quality Assurance Inspector observed 15 diaphragm flanges in various stages of fabrication from fit-up to welding the complete joint penetration weld splices to the flange to diaphragm fillet weld connection.

Bay 7

The Quality Assurance Inspector observed ZPMC performing fit-up and tack welding operations to Floor Beams FB-0023-001, FB-028-001, and FB-030-001. The welders were using the shielded metal arc welding process to produce the fillet tack welds in the horizontal position.

Bay 8

The Quality Assurance Inspector observed 15 diaphragm flanges in various stages of fabrication from fit-up to welding the complete joint penetration weld splices to the flange to diaphragm fillet weld connection.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Summary of Conversations:

As stated in the contents of the above report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco(707) 552 7715, who represents the Office of Structural Materials for your project.

Inspected By:	Bertlesman,Greg	Quality Assurance Inspector
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Reviewed By:	Cochran,Jim	QA Reviewer
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